

**Listing of the Claims:**

Claims 1-12. (Canceled)

Claim 13. (Currently Amended) A method of driving an LCD electrooptic switching element or LC electrooptic switching element with two electrodes where square-wave electric driving signals ~~of changing polarity are applied~~ apply driving voltage to the two electrodes to drive the electrooptic switching element and where amplitudes of the square-wave electric driving signals can vary between different electric levels, said method comprising the steps of:

integrating a potential difference between the two electrodes of the electrooptic switching element via an integrator to obtain a time integral value  $I_{nt}$  of the ~~square-wave electric driving signals~~ voltage; and

controlling the change of polarity of the ~~square-wave electric driving signals~~ voltage such that the time integral value  $I_{nt}$  of the electric driving voltage remains within a predetermined interval  $V_{C1} \leq I_{nt} \leq V_{C2}$  where  $V_{C1}$  and  $V_{C2}$  are electric potentials input to a reference input of a respective comparator.

Claim 14. (Currently Amended) The method according to claim 13, in cases where the amplitudes of the square-wave electric driving signals vary with time, said method further comprising the step of ~~synchronously~~ changing the predetermined interval for the time integral value  $I_{nt}$  synchronously with a change of the polarity of said ~~square-wave electric drive signals~~ driving voltage across the two electrodes of the electrooptic switching element so that the synchronous change of the predetermined interval

corresponds to a completion of a DC voltage component of the ~~square-wave~~ electric driving signals voltage compensation cycle, and is adjusted according to the amplitude variation of the square-wave electric driving signal in such a way that the time intervals of the polarity changes of the square-wave electric driving signals remain as substantially constant as possible.

Claim 15. (Currently Amended) An electronic circuitry for the implementation of the method of claim 13 comprising:

an LCD electrooptic switching element or LC electrooptic switching element with two electrodes applied with square-wave driving signals ~~of changing polarity and amplitude, the amplitudes of which can change during an operation;~~

a differential amplifier having two difference inputs where the two electrodes of the electrooptic switching element are associated with a respective, difference input of the differential amplifier;

an integrator having an input terminal and an output terminal where a signal representing the potential difference of the two electrodes is output by the output terminal of the differential amplifier and inputted into the input terminal of the integrator, and a signal output ~~at the output~~ at the output terminal of the integrator represents a time integral value of the ~~square-wave~~ electric driving signal voltage across the two electrodes of the electrooptic switching element;

a first and a second comparator where the output terminal of the integrator is associated with a first comparator input of the first comparator and a second comparator input of the second comparator, the first comparator having a first reference input and the

second comparator having a second reference input, said first reference and second reference inputs receiving a signal from electric potentials  $V_{C2}$  and  $V_{C1}$ , respectively;

a control “flip/flop” circuit having inputs, which receive signals generated at respective, output terminals of the first and second comparators to enable a control over logic control signals for the electrooptic switching element via “set/reset” inputs of the control “flip/flop” circuit such that the control signals for each of the electrodes of the electrooptic switching element generated at outputs of the control “flip/flop” circuit are phase shifted by  $180^\circ$ ; and

a voltage translator, wherein the control signals output by the control “flip/flop” circuit are input to the voltage translator, said voltage translator transforming said control signals into electric driving signals for the electrooptic switching element and outputting the transformed control signals to the electrodes of the electrooptic switching element, the amplitude of said square-wave electric driving signals being determined by a voltage level  $V_{LCD}$ , which is input to a control input of the voltage translator.

Claim 16. (Currently Amended) The electronic circuitry according to claim 15, further comprising an additional analog switch, a sensor element for sensing a light intensity and logic control circuitry, wherein the additional analog switch selects between voltage levels  $V_{S1}$  and  $V_{S2}$  inputted to the analog switch to define a reference voltage  $V_{C1}$  at its output, which is input to the second reference input of the second comparator; wherein the sensor element generates a signal at an output of the sensor element associated with a synchronization input of the logic control circuitry in order to

synchronize the logic control circuitry in such a way that a logic signal at an output of the logic control circuitry is associated with a control input of the additional analog switch, said logic signal input to the additional analog switch controls said additional analog switch synchronously with the driving signals for the electrooptic switching element and according to the signal of the sensor element in such a way that the additional analog switch selects the voltage  $V_{C1}$  at its output, so that the time intervals ~~interval variations~~ of the polarity change of the electric driving ~~signals~~ voltage, controlled by the comparator, ~~are as small as possible~~ remain substantially constant.

Claim 17. (Currently Amended) An electronic circuitry for the implementation of an electrooptic switching element driving method, comprising:

an LCD electrooptic switching element or LC electrooptic switching element with two electrodes applied with square-wave driving electric signals, ~~of changing polarity and signal~~ the amplitude ( $V_{LCD}$ ) of which can change during an operation;

a first analog switch where the two electrodes of the electrooptic switching element are input to the first analog switch;

an integrator having an input that receives a signal from an output terminal of the first analog switch that represents the potential of one of the two electrodes;

a comparator having a comparator input and a reference input where a signal output by the integrator is fed into the comparator input and the reference input receives a signal from an electric potential  $V_C$  to generate a signal at an output terminal of the comparator;

a control “flip/flop” circuit where the ~~generated~~ signal generated at the output terminal of the comparator enables a control of logic control signals for the electrooptic switching element via an input of the control “flip/flop” circuit such that the control signals for each of the electrodes of the electrooptic switching element generated at a first and a second output of the control “flip/flop” circuit are phase shifted by  $180^\circ$  and one of the control signals generated at the first and second outputs of the control “flip/flop” circuit is associated with a control input of the first analog switch, in order to select one of the inputs of the first analog switch, the output of which is connected to the input of the integrator;

a second analog switch, the select input of which is associated with the output terminal of the comparator ~~where the second output of the control “flip/flop” circuit is associated with a control input of the first analog switch, in order to select one of the inputs of the first analog switch and that the output terminal of the comparator is associated with a select input of the second analog switch~~ such that with every change of the polarity of ~~square-wave~~ electric driving signals voltage across the two electrodes of for the electrooptic switching element, said second analog switch switches for a short time an output associated with an input of the integrator from an electrically floating first input to a constant electric potential, at a second input, in order to reset the integrator to an initial state; and

a voltage translator where control signals output by the control “flip/flop” circuit are input to the voltage translator, which transforms said control signals into the square-wave electric driving signals for the electrooptic switching element and outputs the transformed control signals to the electrodes of the electrooptic switching element, the

amplitude of said square-wave driving signals being determined by the electric voltage  $V_{LCD}$ , which is input to a control input of the voltage translator.

Claim 18. (Currently Amended) An electronic circuitry for the implementation of an electrooptic switching element driving method, comprising:

an LCD electrooptic switching element or LC electrooptic switching element with two electrodes;

a first analog switch;

a voltage translator;

an integrator where a voltage output of the first analog switch is associated with an input of the voltage translator and sends a signal directly to an input of the integrator;

a comparator having a comparator input and a reference input where an output terminal of the integrator outputs a signal to the comparator input of the comparator, said reference input receiving a signal from an electric potential  $V_C$  and together with the signal input to the comparator input generates a signal at an output of the comparator;

a control “flip/flop” circuit having an input terminal for receiving the signal generated at the output of the comparator to enable control of logic control signals for the electrooptic switching element such that the control signals for each of the electrodes of the electrooptic switching element generated at outputs of the control “flip/flop” circuit are phase shifted by  $180^\circ$ ; and

a second analog switch having a select input associated with the output of the comparator such that with every change of the polarity of electric driving ~~signals~~ voltage for the electrooptic switching element, said second analog switch switches for a short

time to output from an electrically floating first input to a constant electric potential  $V_p$ , at a second input, in order to reset the integrator to an initial state, said analog switching output being input to the integrator and wherein the outputs of the control “flip/flop” circuit are input to the voltage translator, which transforms said control signals into the electric driving signals for the electrooptic switching element and outputs the transformed control signals to the electrodes of the electrooptic switching element, the amplitude of said driving signals being determined by the electric voltage  $V_{LCD}$ , which is connected to a control input of the voltage translator.

Claim 19. (Currently Amended) The electronic circuitry according to claim 17, further comprising an additional analog switch, a sensor element for sensing a light intensity and a logic control circuitry, wherein the additional analog switch selects between voltage levels  $V_{S1}$  and  $V_{S2}$  to define a reference voltage  $V_{C1}$ , the voltage levels  $V_{S1}$  and  $V_{S2}$  being inputted to the additional analog switch, and the additional analog switch outputs a signal to the second reference input of the comparator,

wherein the sensor element generates a signal at an output of the sensor element that is input to a synchronization input of the logic control circuitry in order to synchronize the logic control circuitry in such a way that a logic signal at an output of the logic control circuitry controls said additional analog switch synchronously with the driving signals for the electrooptic switching element, said output of the logic control circuitry being input to a control input of the additional analog switch, and according to the signal of the sensor element, the additional analog switch selects the voltage  $V_C$  at its output, so that the time intervals ~~interval variations~~ of the polarity change of the electric

driving ~~signals~~ voltage, as controlled by the comparator, ~~are as small as possible~~ remain substantially constant.

Claim 20. (Previously Presented) The electronic circuitry according to claim 17, characterized in that the integrator comprises an integrating capacitor, a transfer capacitor, two electronic analog switches and two transistors of the opposite polarity, wherein a complete transfer of charge from the transfer capacitor into the integrating capacitor is provided by the two transistors with base leads interconnected and emitter leads interconnected, such that an integration of the electric driving signals is achieved by a periodic, sufficiently frequent, transfer of the charge proportional to the amplitude of the electric driving signal for the electrooptic switching element into the integrating capacitor by the transfer capacitor.

Claim 21. (Previously Presented) The electronic circuitry according to claim 17, characterized in that the comparator comprises two transistors of opposite polarity having base leads connected to collector leads of the other transistor, while remaining emitter leads are connected to an integrating capacitor of the integrator and an output signal of the comparator is provided by an additional NPN transistor.

Claim 22. (Currently Amended) The electronic circuitry as claimed in claim 18, further comprising an additional analog switch, a sensor element for sensing a light intensity and a logic control circuitry, wherein the additional analog switch selects between voltage levels  $V_{S1}$  and  $V_{S2}$  to define a reference voltage  $V_{C1}$ , the voltage levels



$V_{S1}$  and  $V_{S2}$  being inputted to the additional analog switch, and the additional analog switch outputs a signal to the second reference input of the comparator,

wherein the sensor element generates a signal at an output of the sensor element that is input to a synchronization input of the logic control circuitry in order to synchronize the logic control circuitry in such a way that a logic signal at an output of the logic control circuitry controls said additional analog switch synchronously with the driving signals for the electrooptic switching element, said output of the logic control circuitry being input to a control input of the additional analog switch, and according to the signal of the sensor element, the additional analog switch selects the voltage  $V_C$  at its output, so that the time intervals ~~interval variations~~ of the polarity change of the electric driving signals ~~voltage~~, as controlled by the comparator, ~~are as small as possible~~ remain substantially constant.

Claim 23. (Previously Presented) The electronic circuitry according to claim 18, characterized in that the integrator comprises an integrating capacitor, a transfer capacitor, two electronic analog switches and two transistors of the opposite polarity, wherein a complete transfer of charge from the transfer capacitor into the integrating capacitor is provided by the two transistors with base leads interconnected and emitter leads interconnected, such that an integration of the electrooptic switching element driving signals is achieved by a periodic, sufficiently frequent, transfer of the charge proportional to the electrooptic switching element driving signals into the integrating capacitor by the transfer capacitor.

Claim 24. (Previously Presented) The electronic circuitry according to claim 18, characterized in that the comparator comprises two transistors of opposite polarity having base leads connected to collector leads of the other transistor, while remaining emitter leads are connected to an integrating capacitor of the integrator and an output signal of the comparator is provided by an additional NPN transistor.